

CLAIMS

What is claimed is:

- 1 1. A method for establishing an overlay network of collaborative conference servers
2 for use in a multi-participant conference, the method comprising:
3 establishing a plurality of collaborative conference servers;
4 connecting at least two of the conference servers directly to at least two separate
5 conference participants; and
6 using each one of the directly connected conference servers to simultaneously
7 provide audio mixing for its directly attached participant.
- 1 2. The method of claim 1, further comprising managing at least two of the
2 conference servers using at least two separate service providers.
- 1 3. The method of claim 1, further comprising establishing a controllable voice
2 packet routing path through the overlay network.
- 1 4. The method of claim 3, wherein the step of establishing a controllable voice
2 packet routing path further comprises connecting once and only once to every
3 conference server that is directly attached to a participant.
- 1 5. The method of claim 3, wherein the step of establishing a controllable voice
2 packet routing path further comprises directing all of the voice data packets
3 through the overlay network.
- 1 6. The method of claim 3, further comprising dynamically modifying the voice
2 routing path during the multi-participant conference including transferring one or
3 more participants from a first conference server to a second conference server,

- 4 adding one or more conference servers to the overlay network and removing one
5 or more existing conference servers from the overlay network.
- 1 7. The method of claim 1, further comprising setting the output from one of the
2 connected conference servers to the connected participant equal to the sum of all
3 inputs to that connected conference server except an input associated with that
4 connected participant.
- 1 8. The method of claim 1, wherein the step of establishing a plurality of conference
2 servers comprises:
3 identifying an available set of conference servers;
4 communicating an internet protocol address and a path delay time for each one of
5 the conference servers among the connected conference participants;
6 communicating the addresses and delay times of conference servers from each
7 participant to its directly connected conference server.
- 1 9. The method of claim 1, wherein the step of connecting at least two of the
2 conference servers directly to at least two separate conference participants further
3 comprises:
4 associating a first conference server with a contact number associated with the
5 multi-participant conference;
6 connecting a first and second conference participant to the first conference server
7 using the contact number;
8 using the first conference server to identify a second conference server;
9 transferring the second conference participant to the second conference server.
- 1 10. A computer readable medium containing a computer executable code that when
2 read by a computer causes the computer to perform method for establishing an

3 overlay network of collaborative conference servers for use in a multi-participant
4 conference, the method comprising:
5 establishing a plurality of collaborative conference servers;
6 connecting at least two of the conference servers directly to at least two separate
7 conference participants; and
8 using each one of the directly connected conference servers to simultaneously
9 provide audio mixing for its directly attached participant.

1 11. The computer readable medium of claim 10, wherein the method further
2 comprises managing at least two of the conference servers using at least two
3 separate service providers.

1 12. The computer readable medium of claim 10, wherein the method further
2 comprises establishing a controllable voice packet routing path through the
3 overlay network.

1 13. The computer readable medium of claim 12, wherein the step of establishing a
2 controllable voice packet routing path further comprises connecting once and only
3 once to every conference server that is directly attached to a participant.

1 14. The computer readable medium of claim 12, wherein the step of establishing a
2 controllable voice packet routing path further comprises directing all of the voice
3 data packets through the overlay network.

1 15. The computer readable medium of claim 12, wherein the method further
2 comprises dynamically modifying the voice routing path during the multi-
3 participant conference including transferring one or more participants from a first
4 conference server to a second conference server, adding one or more conference

5 servers to the overlay network and removing one or more existing conference
6 servers from the overlay network.

1 16. The computer readable medium of claim 10, wherein the method further
2 comprises setting the output from one of the connected conference servers to the
3 connected participant equal to the sum of all inputs to that connected conference
4 server except an input associated with that connected participant.

1 17. The computer readable medium of claim 10, wherein the step of establishing a
2 plurality of conference servers comprises:
3 identifying an available set of conference servers;
4 communicating an internet protocol address and a path delay time for each one of
5 the conference servers among the connected conference participants;
6 communicating the addresses and delay times of conference servers from each
7 participant to its directly connected conference server.

1 18. The computer readable medium of claim 10, wherein the step of connecting at
2 least two of the conference servers directly to at least two separate conference
3 participants further comprises:
4 associating a first conference server with a contact number associated with the
5 multi-participant conference;
6 connecting a first and second conference participant to the first conference server
7 using the contact number;
8 using the first conference server to identify a second conference server;
9 transferring the second conference participant to the second conference server.

1 19. The computer readable medium of claim 10, wherein the step of establishing a
2 plurality of collaborative conference servers further comprises establishing a
3 plurality of collaborative session initiation protocol conference servers.

1 20. A system for providing multi-participant conferencing, the system comprising
2 an overlay network of conference servers arranged to collaboratively host the
3 multi-party conference, the overlay network comprising a plurality of conference
4 servers, each conference server directly attached to at least one conference
5 participant and arranged to supply audio mixing for the directly attached
6 participant, wherein all of the conference servers provide audio mixing for
7 directly attached participants simultaneously.